Carriage Evaluation of Nasopharangeal Neisseria Spp on Children Up to 5 Years Old in Tehran, Iran

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Background & Objectives: Neisseria spp is one of the most strains of the commensal bacteria in mucosal membranes of humans nasopharengeal. Nasopharyngeal carriage is the paramount importance in the transmission of this bacterium.The aim of this study was to discover the frequency of Neisseria species in healthy children under five years old age, as well as the distribution of N.meningitidis isolated from the nasopharyngeal exudates of the population under study.

Methods: In this study 110 nasopharyngeal samples isolated from healthy children under 5 years old in Children's Medical Center in Tehran during 2011-2012 and were cultured on modified Thayer Martin agar. Identification was performed by biochemical testing, oxidase, CTA and then species differentiation were performed by prime PCR.

Results: The results showed that 30 cases (27%) of the children were carrier of Neisseria SPP (39% girls and 51% boys) and 5 cases (4.5%) of them are positive for *N.meningitidis* (40% girls and 60% boys). 27% of Neisseria and 20% of N.meningitidis isolated from 1-2 year old children, 40% of Neisseria and 60% of N.meningitidis isolated from 2-3 year old children, 19% of Neisseria and 20% of *N.meningitidis* isolated from 3-4 year old children and 14% of Neisseria and 0% of *N.meningitidis* isolated from 4-5 year old children, respectively.

Conclusion: The prevalence of *N.meningitidis* carriers in the study incomparison with other countries were significant(5%). The percentage of colonization varies depending on the age group. The prominent group are 2 to 3 years old; This rate is reduced with increasing age. The identification and detection of serotypes will enable us to estimate the magnitude of the meningitis problem in our country and would make it possible to set up the appropriate treatment measures and apply specific vaccines in our population.

Keywords: *Neisseria meningitidis*; Carriers; Nasopharynx; PCR